

Application No.: 10/524,335  
Amendment Dated: December 7, 2006  
Reply to Office Action of: November 14, 2006

MAT-8666US

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Cancelled).

2. (Currently Amended) A power supply apparatus for a vehicle, the power supply apparatus for use with a battery, the power supply apparatus comprising:

an electronic controller for outputting information for controlling braking of the vehicle to a brake based on at least one of information from a brake pedal and information in response to a moving state of the vehicle;

~~a the~~ battery for supplying electric power to the brake via the electronic controller;

an auxiliary power supply including a capacitor unit formed of a plurality of capacitors and a detection unit for detecting an abnormality in the capacitor unit, the auxiliary power supply supplying electric power to the brake via the electronic controller when the battery is in an abnormal state,

wherein, in charging or discharging the capacitor unit, the detection unit measures an internal resistance value of the capacitor unit based on ~~a current value in the charging and~~ at least one of:

a) a current value in the charging and a voltage increase when charging is started, or ~~based on the current value in the charging and one of a voltage decrease~~ when the charging is interrupted and a voltage increase when the charging is restarted after the interruption, and

b) a current value in the discharging and a voltage decrease when discharging is started, or the current value in the discharging and one of a voltage increase when the discharging is interrupted and a voltage decrease when the discharging is restarted after the interruption, and

the detection unit measures an internal capacitance value of the capacitor unit from a rate of change of voltage per unit time of the capacitor unit in charging or discharging, and the detection unit detects an abnormality in the capacitor unit based on the measured internal resistance value and internal capacitance value.

3. (Cancelled).

4. (Currently Amended) The power supply apparatus for a vehicle according to claim 2,

wherein the detection unit measures temperature of the capacitor unit in the charging or the discharging,

corrects the internal capacitance value and the internal resistance value at each temperature based on a capacitance value difference and a resistance value difference between each of the measured internal capacitance value and the measured internal resistance value and each of a standard internal capacitance value and a standard internal resistance value of the capacitor unit, which are initialized in advance, at the temperature measured in the charging or the discharging, and

judges whether or not the capacitor unit is in a normal state by comparing the corrected internal resistance value with a limit internal resistance value with respect to the corrected internal capacitance value, at the each temperature.

5.-6. (Cancelled).

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7. (Previously Presented) The power supply apparatus for a vehicle according to claim 2, wherein the rate of change of voltage is measured multiple times every predetermined time.

8. (Cancelled).

9. (Previously Presented) The power supply apparatus for a vehicle according to claim 4, wherein the rate of change of voltage is measured multiple times every predetermined time.

10. (Cancelled).

11. (Previously Presented) The power supply apparatus for a vehicle according to claim 2,

wherein the detection unit measures an internal capacitance value of the capacitor unit from a composite rate of change of voltage per unit time of the capacitor unit based on a plurality of different rates of change of voltage per unit time.

12. (Cancelled).

13. (Previously Presented) The power supply apparatus for a vehicle according to claim 11,

wherein the composite rate of change of voltage per unit time is an average of the plurality of different rates of change of voltage per unit time.

14. (Cancelled).